

Claims

1. Composition suitable as a substitute for plasma comprising a solution of saline in a physiologically acceptable concentration and a protein having a colloid osmotic function characterized in that the protein having a colloid osmotic function is a recombinant gelatin-like protein with a molecular weight from at least 10,000 Daltons to at most 50,000 Daltons and has an isoelectric point of less than 8.
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2. Composition suitable as a substitute for plasma comprising a solution of saline in a physiologically acceptable concentration and a protein having a colloid osmotic function characterized in that the protein having a colloid osmotic function is a dimer or a trimer or a tetramer of a recombinant gelatin-like protein with a molecular weight from at least 10,000 Daltons to at most 50,000 Daltons and has an isoelectric point of less than 8.
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3. Composition according to claim 1 or 2 wherein the recombinant gelatin-like protein has a molecular weight from at least 15,000 Daltons to at most 25,000 Daltons.
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4. Composition according to any of the preceding claims wherein the recombinant gelatin-like protein has an isoelectric point from at least 4 to at most 7.
5. Composition according to any of the preceding claims wherein the number of 20 negatively charged aminoacid residues at pH 8 in the recombinant gelatin-like protein, minus the number of positively charged aminoacid residues at pH 8 in the recombinant gelatin-like protein is at least 2, preferably at least 3.
6. Composition according to any of the preceding claims wherein said recombinant gelatin-like protein is a human gelatin-like protein.
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7. Composition according to any of the preceding claims wherein the recombinant gelatin-like protein with an isoelectric point of less than 8 is obtained by replacement of glutamine by glutamic acid and/or replacement of asparagine by aspartic acid.
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8. Composition according to any of the previous claims wherein said recombinant gelatin-like protein comprises the amino acid sequence of SEQ ID NO: 1 or SEQ ID NO: 4.

9. A process for using a recombinant gelatin-like protein with a molecular weight from at least 10,000 Daltons to at most 50,000 Daltons as plasma expander, said recombinant gelatin-like protein having an isoelectric point of less than 8.
10. A process for using a dimer or a trimer or a tetramer of a recombinant gelatin-like protein with a molecular weight from at least 10,000 Daltons to at most 50,000 Daltons as plasma expander, said recombinant gelatin-like protein having an isoelectric point of less than 8.
11. The process according to claim 9 or 10 in which the recombinant gelatin-like protein has a molecular weight from at least 15,000 Daltons to at most 25,000 Daltons.
12. The process according to claim 9-11 in which the recombinant gelatin-like protein has an isoelectric point from at least 4 to at most 7.
13. The process according to claim 9-12 wherein the number of negatively charged aminoacid residues at pH 8 in the recombinant gelatin-like protein minus the number of positively charged aminoacid residues at pH 8 in the recombinant gelatin-like protein is at least 2, preferably at least 3.
14. The process according to claim 9-13 in which the recombinant gelatin-like protein is a human gelatin-like protein.
15. The process according to claim 9-14 in which the recombinant gelatin-like protein comprises the amino acid sequence of SEQ ID NO: 1 or SEQ ID NO: 4.